

Serial No. 09/939,848

IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. This listing of the claims replaces all previously submitted claims listings.

1-10 (Canceled)

11. (Currently amended) A field emission array, comprising:
a substrate; and
at least one substantially pointed tip protruding from the substrate, the at least one substantially pointed tip comprising at least one of a semiconductive material and a conductive material, the at least one substantially pointed tip including a periphery, at least a first portion of the periphery being oriented substantially perpendicularly relative to the substrate and at least a second portion at an end of the at least one substantially pointed tip of the periphery being oriented at an angle relative to the substrate to form an apex;
and
at least one surrounding element comprising redeposition material adjacent to at least the first portion of the periphery and including a surface that tapers toward an exposed end of the at least one substantially pointed tip and that surrounds at least the first portion of the at least one substantially pointed tip.

12. (Previously presented) The field emission array of claim 11, wherein the first portion of the periphery is adjacent the substrate.

13. (Previously presented) The field emission array of claim 11, wherein a height of the first portion of the periphery relative to the substrate exceeds a width of the at least one substantially pointed tip.

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14. (Previously presented) The field emission array of claim 11, wherein an end of the at least one substantially pointed tip comprises a low work function material.

15. (Previously presented) The field emission array of claim 14, wherein the low work function material is selected from the group comprising aluminum titanium silicide, titanium silicide nitride, titanium nitride, tri-chromium mono-silicon, and tantalum nitride.

16. (Canceled)

17. (Previously presented) The field emission array of claim 11, wherein an apex of the at least one substantially pointed tip has a lateral width of less than about 100 nm.

18. (Previously presented) The field emission array of claim 11, wherein an apex of the at least one substantially pointed tip has a lateral width of less than about 50 nm.

19. (Currently amended) A field emission display, comprising:
an anode display screen;
a cathode spaced apart from the anode display screen, the cathode including:
a substrate;
at least one substantially pointed tip protruding from the substrate, the at least one substantially pointed tip comprising at least one of a semiconductive material and a conductive material, the at least one substantially pointed tip including a periphery, at least a first portion of the periphery being oriented substantially perpendicularly relative to the substrate and at least a second portion of the periphery being oriented at an angle relative to the substrate;
at least one surrounding element that tapers toward an exposed end of the at least one substantially pointed tip, and that surrounds at least a portion of the at least one substantially pointed tip, and that comprises redeposition material adjacent to at least the first portion of the periphery; and

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a gate through which the at least one substantially pointed tip is exposed;
a substantial vacuum between the anode display screen and the cathode; and
a voltage source associated with the anode display screen, the gate, and the cathode to provide a
potential difference between the cathode and the gate and between the cathode and the
anode display screen.

20. (Previously presented) The field emission display of claim 19, wherein at least
the first portion of the periphery is adjacent the substrate.

21. (Previously presented) The field emission display of claim 19, wherein a height
of at least the first portion of the periphery relative to the substrate exceeds a width of the at least
one substantially pointed tip.

22. (Previously presented) The field emission display of claim 19, wherein a top
portion of the at least one substantially pointed tip comprises a low work function material.

23. (Previously presented) The field emission display of claim 22, wherein the low
work function material is selected from the group comprising aluminum titanium silicide,
titanium silicide nitride, titanium nitride, tri-chromium mono-silicon, and tantalum nitride.

24. (Canceled)

25. (Previously presented) The field emission display of claim 19, wherein an apex of
the at least one substantially pointed tip has a diameter of less than about 100 nm.

26. (Previously presented) The field emission display of claim 19, wherein an apex of
the at least one substantially pointed tip has a diameter of less than about 50 nm.